



Date: _____

Experiment No. 3.

Aim:- Build simple network topology using HUB & SWITCH.

Theory:-

*HUB

An Ethernet hub, active hub, network hub, repeater hub, hub or concentrator is a device for connecting multiple twisted pair or fibre optic Ethernet devices together & making them act as a single network segment. Hubs work at the physical layer (layer 1) of the OSI Model. The device is form of multipoint repeater. Repeater hubs also participate in collision detection, forward a jam signal to all ports if it detects a collision.

*SWITCH

A network switch or switching hub is a computer networking device that connects network segments. The term commonly refers to a network bridge that processes & routes data at data link layer (layer 2) of OSI model. switches that additionally process data at the network layer (layer 3 & above) are often referred to as layer 3.



Date: _____

Procedure:- * HUB

Step 1:- Launch Cisco Packet Tracer on Computer.

Step 2:- Start a new project by clicking on 'file'
→ 'New' or by "Ctrl+N".

Step 3:- Drag & Drop devices from left sidebar select "End devices" & drag few PCs into workspace. Then select "Hubs" & drag a hub into workspace.

Step 4:- Connect Devices
Use the "straight Through" cable type to connect the PCs to the hub. Click on cable end, drag it to desired port on hub & release to make the connection.

Step 5:- Configure IP address
Click on PC → "Config" → Give IP address

Step 6:- Save the project.

Step 7:- ~~Test~~ the experiment
Now, ~~test~~ basic network connectivity. Open a command prompt on each PC & try to ping the other PCs in network using their IP addresses.



Date: _____

Procedure :- SWITCH

Step 1:- Launch Cisco Packet Tracer on PC.

Step 2:- Start New project by clicking on 'file' → 'new' or by "Ctrl+N".

Step 3:- Drag & Drop devices from left sidebar select "End devices" & drag few PCs into workspace. Then select "Switch" & drag a switch into workspace.

Step 4:- Connect devices

Use the "straight Through" cable type of connect the PC to the switch. Click on cable end, drag it to desired port on switch & release to make the connection.

Step 5:- Configure IP address

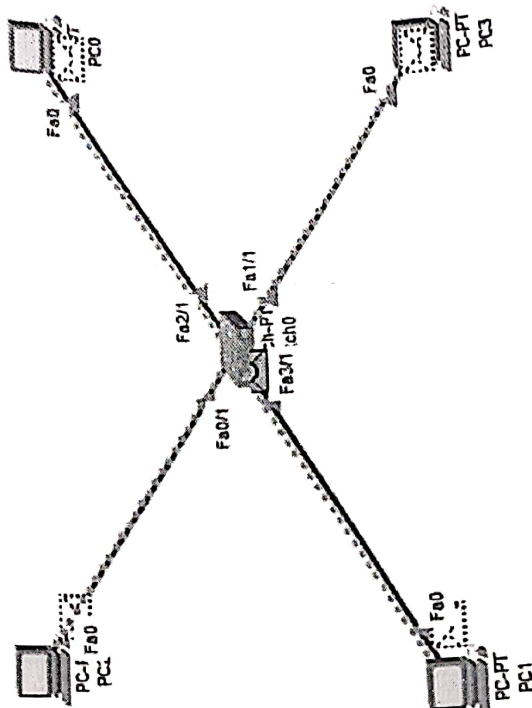
Click on PC → "config" → Give IP address.

Step 6:- Save the project

Step 7:- Test the experiment

Now, basic network connectivity open command prompt on each PC & try to ping the other PCs in network using their IP addresses.

Conclusion:- Understand different topologies using HUB & SWITCH.



V/S	Time(sec)	Last Device	AI Device	Type
	0.002	Switch0	PC1	ARP
	0.003	PC1	Switch0	ARP
	0.004	Switch0	PC2	ARP
	0.004	-	PC2	ICMP
	0.005	PC2	Switch0	ICMP
	0.005	Switch0	PC1	ICMP
	0.007	PC1	Switch0	ICMP
	0.008	Switch0	PC2	ICMP
	1.963	-	Switch0	STP
	1.964	Switch0	PC2	STP
	1.964	Switch0	PC2	STP
	1.964	Switch0	PC2	STP
	1.964	Switch0	PC1	STP

☒ Constant Delay

Captured to 1.964 s

Event List Filters - Visible Events

- AOL, FileC, ARP, RCP, Bluetooth, CAPWAP, CDP, DHCP, Discovery, DNS, DTP, EIGRP, HSRP, IGRP, OSPF, RIP, STP, Telnet, TFTP, VRRP, BGP, LSP, MPLS, NHRP, PIM, RIPv2, RIPv3, SLL, SSH, SNMP, Syslog, TACACS, TCP, UDP, User, VTY

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